

**Translation**

**PATENT COOPERATION TREATY**

PCT/JP2004/002707



**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>M938-PCT</b>	<b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416	
International application No. <b>PCT/JP2004/002707</b>	International filing date ( <i>day/month/year</i> ) <b>04 March 2004 (04.03.2004)</b>	Priority date ( <i>day/month/year</i> ) <b>10 April 2003 (10.04.2003)</b>
International Patent Classification (IPC) or national classification and IPC <b>F16K 27/02</b>		
Applicant <b>ASAHI ORGANIC CHEMICALS INDUSTRY CO., LTD.</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (*sent to the applicant and to the International Bureau*) a total of 2 sheets, as follows:

☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (*sent to the International Bureau only*) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒ Box No. I Basis of the report

☐ Box No. II Priority

☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

☐ Box No. IV Lack of unity of invention

☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

☐ Box No. VI Certain documents cited

☐ Box No. VII Certain defects in the international application

☐ Box No. VIII Certain observations on the international application

Date of submission of the demand <b>10 February 2005 (10.02.2005)</b>	Date of completion of this report <b>11 May 2005 (11.05.2005)</b>
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/002707

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☐ The international application as originally filed/furnished
- ☒ the description:
- pages \_\_\_\_\_ 1-13 \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- pages \_\_\_\_\_ 3, 4 \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_, as amended (together with any statement) under Article 19
- pages\* \_\_\_\_\_ 1, 2, 5-7 \_\_\_\_\_ received by this Authority on 10 February 2005 (10.02.2005)
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- pages \_\_\_\_\_ 1-8 \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

## 1. Statement

Novelty (N)	Claims	1-7	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-7	NO
Industrial applicability (IA)	Claims	1-7	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

## [List of Documents]

Document 1: JP, 4-24218, Y2 (K.K. Tomoe Gijutsu Kenkyusho), June 8, 1992 (06.08.92), Full text, Figs. 1-6

Document 2: JP, 7-98071, A (K.K. Tomoe Gijutsu Kenkyusho), April 11, 1995 (04.11.95), Full text, Figs. 1-45

Document 3: JP, 3052091, U (Asahi Organic Chemicals Industry Co., Ltd.), September 11, 1998 (09.11.98), Full text, Figs. 1-6

Document 4: Microfilm of the specification and drawings annexed to the written application of Japanese Utility Model Application No. 90631/1989 (Laid-Open Utility Model No. 29777/1991), (Hisaka Works, Ltd.), March 25, 1991 (03.25.91), Full text, Figs. 1-4

Document 5: Microfilm of the specification and drawings annexed to the written application of Japanese Utility Model Application No. 131948/1988 (Laid-Open Utility Model No. 51769/1990), (Hisaka Works, Ltd.), April 12, 1990 (04.12.90), Full text, Figs. 1-6

Document 6: JP, 2000-337547, A (Asahi Organic Chemicals Industry Co., Ltd.), December 5, 2000 (12.05.00), Full text, Figs. 1-12

Document 7: JP, 10-184934, A (Hisaka Works, Ltd.) July 14, 1998 (07.14.98), Full text, Figs. 1-7

(Continued)

## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.  
Continuation of Box V.2:

## [Claim 1]

Document 1 describes a butterfly valve (see drawings) wherein a top flange (middle flange 4) for installing a drive portion (3) using a connecting bolt (9) is formed as a separate body from a valve housing (body 1, flange 2), a plurality of cutout portions (long holes 6) are provided in the top flange (4), and the cutout portions (6) extend from an outer peripheral edge to the center so that the connecting bolt (9) can move in a radial direction of the top flange inside the cutout portions.

Document 2 describes a butterfly valve comprising a valve housing (1) in which a substantially hollow-cylindrical flow passage (see drawings) is formed therein, a circular disk-like valve body (3) swingably provided in the flow passage, and a stem (stem 19) extending from the valve body to outside and swingably supported by the valve housing (1), wherein the drive portion (not shown in the drawings) causes the stem to swing, thereby rotating the valve body in the flow passage to open and close the flow passage.

Also, document 3 describes an automatic valve gear wherein a top flange (8) for having a swing drive portion (1) to be installed is integrally molded with a valve housing (body 2), and in the flange, a plurality of cutout portions (13) extending from the outer peripheral edge to the center are formed.

Using a butterfly valve as described in document 2 as a basic configuration for the butterfly valve of document 1 is found to be an obvious matter that could be appropriately set by a party skilled in the art.

Also, in the butterfly valve of document 1, the top flange (middle flange 4) is formed as a separate body from the valve housing (body 1, flange 2). However, this examination finds that, from the description of connecting both valve housings (body 1, flange 2) by the top flange (middle flange 4) using a connecting bolt as described in document 3, integral molding is literally an obvious matter to a party skilled in the art.

Therefore, the invention relating to claim 1 is found to be an obvious constitution that could be conceived of by a party skilled in the art based on the inventions described in documents 1-3.

## [Claim 2]

Document 4 (Fig. 3) describes a butterfly valve wherein the outer periphery of a seat ring body (seat ring 11) is formed into an elliptical shape in which axial direction of a stem (2) serves as a long axis. This examination finds that applying the configuration of document 4 to the butterfly valve of document 1 to achieve the invention relating to claim 2 of the present application is obvious to a party skilled in the art.

## [Claims 3 and 4]

Document 5 (Figs. 1-3) describes a flange for pulling and stopping a stem (4) and an installing groove thereof. Therefore, the inventions relating to claims 3 and 4 do not appear to involve an inventive step.

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**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.  
Continuation of Box V.2:

**[Claims 5 and 6]**

Document 6 describes a butterfly valve comprising a lever drive portion (handle 8). Also, document 7 describes a butterfly valve comprising a manual gear drive portion (drive unit 1). Therefore, the inventions relating to claims 5 and 6 do not appear to involve an inventive step.

**[Claim 7]**

Document 3 describes an automatic drive portion wherein a drive portion (1) is an automatic drive portion using an actuator (21). Therefore, the invention relating to claim 7 of the present application does not appear to involve an inventive step.